

ABSTRACT

A centrifugal extractor of non-contact journaled construction is provided in which, even under the environments of corrosive gase and mist-like liquid such as nitric acid mist generated in the reprocessing of a spent nuclear fuel, no problem in corrosion or deterioration of parts occurs and high reliability is obtained, and operation is enabled for a long period of time free from maintenance. A rotor 12 housed in a rotor housing 10 is journaled by a main shaft 14 and rotated and driven by a motor 16. The main shaft is surrounded by a drive-portion housing 30, and has a thrust magnetic disk 36 on the upper end and radial magnetic disks 46, 48 and a motor-rotor portion 54 in the circumference thereof. Thrust bearing electromagnets 38a, 38b, radial bearing electromagnets 50, 52 and a motor stator portion 56 are incorporated into the drive-portion housing, and covered by non-magnetic anticorrosive protective plates 40, 42, and a protective pipe 64, the motor-rotor portion being also covered by a protective can 58. Slide bearings 66, 68 for touch down made of fluorocarbon resin are disposed on the upper end of the main shaft and on the inner wall of the drive-portion housing in the vicinity of the upper end of the rotor.